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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,963	03/07/2004	David Gere	017516-001520US	8624

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PATENT DEPT  
INTUITIVE SURGICAL, INC  
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EXAMINER

REKSTAD, ERICK J

ART UNIT PAPER NUMBER

2621

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/795,963	<b>Applicant(s)</b> GERE ET AL.	
	<b>Examiner</b> Erick Rekstad	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 33-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/7/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This is a First Office Action for application no. 10/795,963 filed on March 7, 2004 wherein claims 33-39 are presented for examination.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,315,630 to Sturm et al.

[claims 33, 35, 37 and 39]

As shown in Figure 4, Sturm teaches the use of a method and system for aligning opposed images of a stereo imaging system. The method includes capturing a right and a right and a left optical image of a target site (34 and 36). The optical images are transformed into digital information in the form of a digital array (50 and 52). The arrays are tested to determine sections which produce the necessary brightness to be interpreted as the markers (22, 24, 26, 28 and 30). These markers are the target features (Col 5 Lines 8-22, Col 6 Lines 5-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to a threshold value in order to determine pixel locations which produce a brightness difference which relates to the marker which is being detected (Official Notice). Note the detecting of the markers is performed through the whole matrix, which would be all the rows and columns.

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Though Sturm is silent on the exact use of a threshold, Sturm does teach the markers contain a distinctly different color and brightness from the background (Col 6 Lines 5-7). Sturm further teaches the use of brightness to detect these markers (Col 5 Lines 11-22). Though Sturm is silent on the method used to detect the brightness, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a brightness value related to the marker with a degree of freedom from the value such as that of claim 39, as this is a well known technique for detecting objects by only checking for large changes in brightness (Official Notice).

[claim 34]

Sturm further teaches once the marker is detected a center of gravity is determined. This center of gravity is the mean location between the first and second column locations (Col 5 Lines 33-35 and Lines 49-55)

[claim 36]

As shown above, the markers and center of gravity of the markers are used to define a line from the sensor to the marker (Col 5 Lines 50-65). This line is further used to correct the images obtained by computing a least square fit (Col 6 Lines 13-29, Col 7 Lines 6-15, and Col 11 Lines 20-26).

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sturm as applied to claim 33 above, and further in view of US Patent 4,724,480 to Hecker et al.

[claim 38]

As shown above for claim 33, Sturm teaches the detecting of markers in order to align a stereo imaging system. Sturm teaches the markers are circles (Fig. 5). Hecker teaches an alignment system for a stereo imaging system where a circles is used (Fig. 2). The obtained images from the sensors produce an elliptical feature which is used to calibrate the sensors (Col 2 Line 59-Col 3 Line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the elliptical feature of Hecker with the alignment system of Sturm as Hecker teaches the elliptical feature allows for the determination of required adjustments of the sensors as cited above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,613,013 to Schuette.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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